

5/43

<b>DART AEROSPACE LTD</b>	<b>Work Order:</b>	<b>24442</b>
<b>Description:</b> Mid Tube Assembly	<b>Part Number:</b>	<b>D3391-023</b>
<b>Dwg:</b> D3391 Rev. C	<b>Qty:</b>	<b>2</b>
Page 1 of 2		

Step	Location	Procedure	By	Date	Qty
1	DC	Issue Traveler	<i>[Signature]</i>	05.10.24	2
2	LG	Cut tube to finish length as per Dwg D3391 <b>Pick:</b> Qty Part Number Description Batch 1 D2500-1-100 Extrusion B21778 <b>Identify as D3391-023</b>	<i>[Signature]</i>	05-11-3	2
3	LG	Drill pilot holes using DT8796 as per Dwg D3391	<i>[Signature]</i>	05-11-3	2
4	LG	Open float bag holes to Ø0.250" as per Dwg D3391 using DT8796D visual aid Jig	<i>[Signature]</i>	05-11-3	2
5	LG	C'sink float bag holes as per Dwg D3391	<i>[Signature]</i>	05-11-3	2
6	LG	Open remaining holes to Ø0.438" as per Dwg D3391	<i>[Signature]</i>	05-11-3	2
7	LG	Remove indexing ridge on aft end of skidtube as per Dwg D3391	<i>[Signature]</i>	05-11-3	2
8	LG	Deburr	<i>[Signature]</i>	05-11-3	2
9	LG	Drill #30 pilot holes using wearplate Jig DT8217 <b>Identify Ø0.208" holes with paint marker</b>	<i>[Signature]</i>	05-11-14	2
10	LG	Open wearplate holes of D3391-023 assembly detail section G-G to Ø0.208" (14 holes) as per Dwg D3391	<i>[Signature]</i>	05-11-14	2
11	LG	Open wearplate holes of D3391-023 assembly detail section H-H to Ø0.250" and c'sink (20 holes) as per Dwg D3391	<i>[Signature]</i>	05-11-14	2
12	LG	Deburr and blow out all chips from inside tube	<i>[Signature]</i>	05-11-14	2
13	QC5	Inspect work to Step 12	<i>[Signature]</i>	05-11-14	2
14	FP	Chemical Conversion Coat as per QSI 005 4.1	A.M.	05-11-14	2
15	QC3	Inspect Chemical Conversion Coat	<i>[Signature]</i>	05-11-14	2
16	LG	Bond web in place as per Dwg D3391 & QSI 015. <b>Pick:</b> Qty Part Number Description Batch 1 D3389-1 Web B24597 A/R Sikaflex-241/-291 M18467 Sikaflex expire date: 05/12/31 Start: 05/11/14 Time: 4:15 Finish: 05/11/15 Time: 8:00 <b>(Adhere for 12 hours)</b>	<i>[Signature]</i>	05-11-14	2
17	LG	Install inserts as per Dwg D3391 <b>Pick:</b> Qty Part Number Description Batch 20 NAS1330C3KB116 Insert A17524 10 NAS1330C3KB166 Insert M18308	<i>[Signature]</i>	05-11-15	2
18	QC5	Inspect work to Step 17	<i>[Signature]</i>	05-11-15	2

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Mfg / Design Mgr	Approval QC Inspector

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Design Mgr	Approval QC Inspector
			Initial Design Mgr	Action Description Design Mgr	Sign & Date			

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes ☒ No ☐ DQA: ☒ ☐ Date: 05/11/21

NOTE: Date & initial all entries

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

<b>DART AEROSPACE LTD</b>	<b>Work Order:</b>	24442
<b>Description:</b> Mid Tube Assembly	<b>Part Number:</b>	D3391-023
<b>Dwg:</b> D3391 Rev. C	<b>Qty:</b>	
		Page 2 of 2

Step	Location	Procedure	By	Date	Qty
18 15	FP	Powder Coat White Gloss (Ref. 4.3.5.1) as per QSI 005 4.3. <del>Use paint screws to mask inserts.</del>	AS	05/11/15	2
20 19	QC3	Inspect Powder Coat	J	05/11/15	2
21	ST	Identify and Stock	B	05/11/15	2
22	AC	Cost/Part: 250.55	S	05/11/21	2
23	DC	Close W/O 250.55 Inspect Level 21	P	05/11/21	2

Rev	Date	Change	Revised By	Approved
A	05.10.20	New Issue	KJ/EC	

PRELIMINARY ISSUE

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Mfg / Design Mgr	Approval QC Inspector

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Design Mgr	Approval QC Inspector
			Initial Design Mgr	Action Description Design Mgr	Sign & Date			

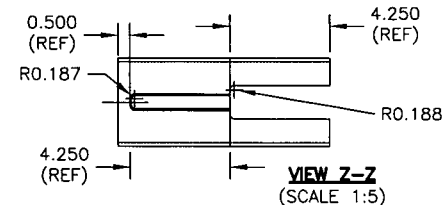
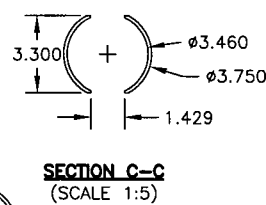
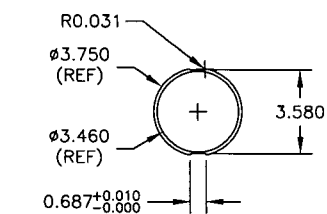
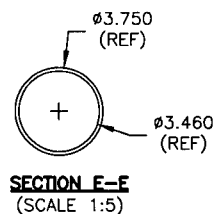
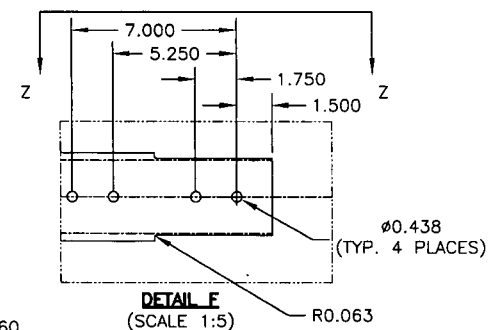
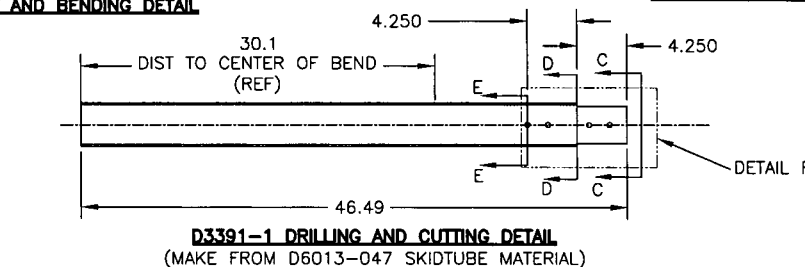
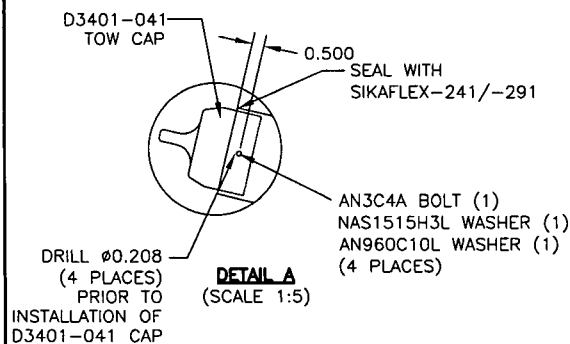
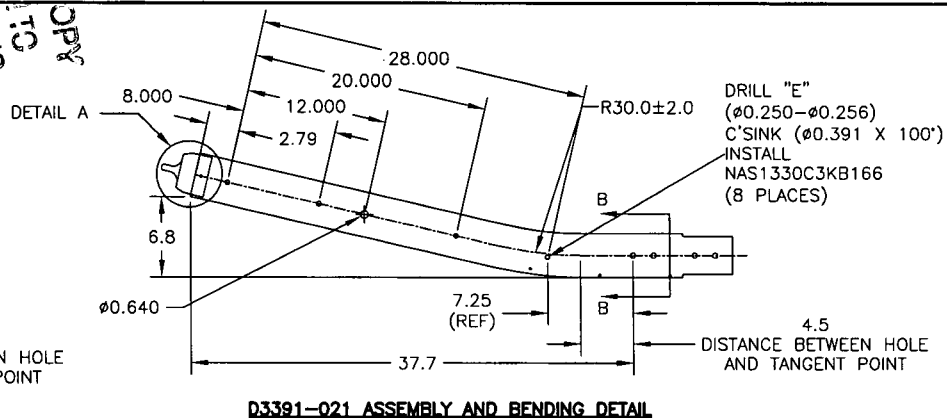
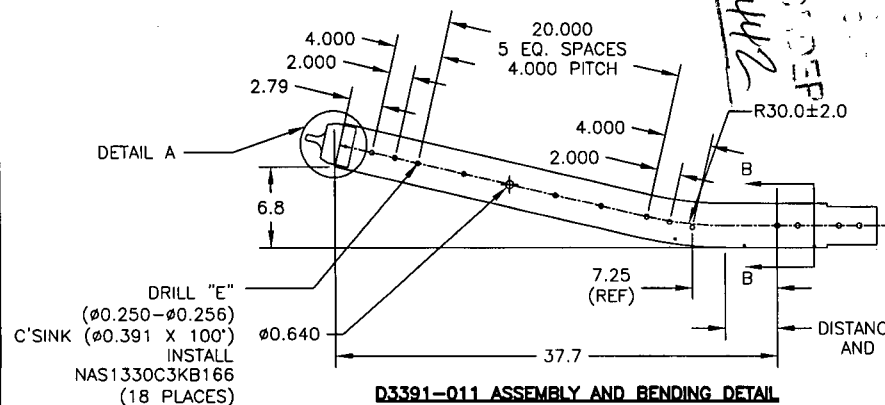
Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

NOTE: Date & initial all entries

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

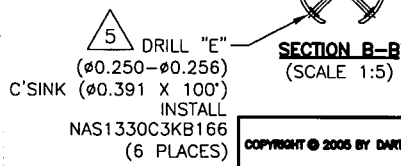


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NO. 2442



**D3391-011/-021 FWD TUBE ASSEMBLY PARTS LIST**

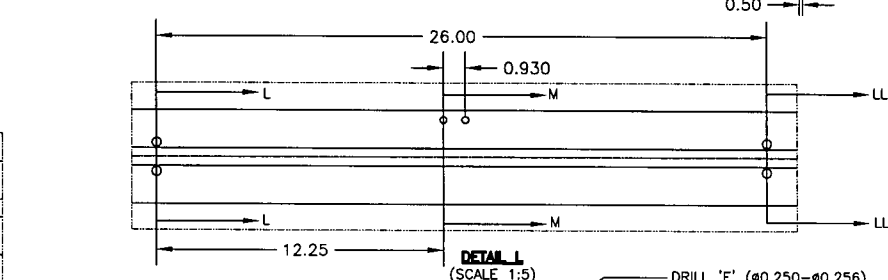
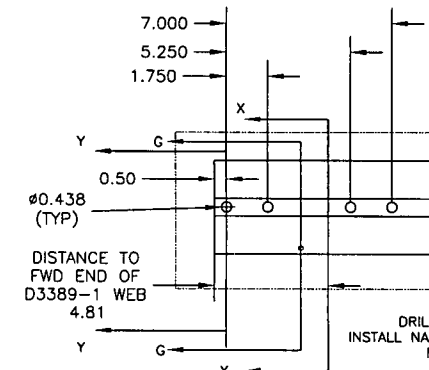
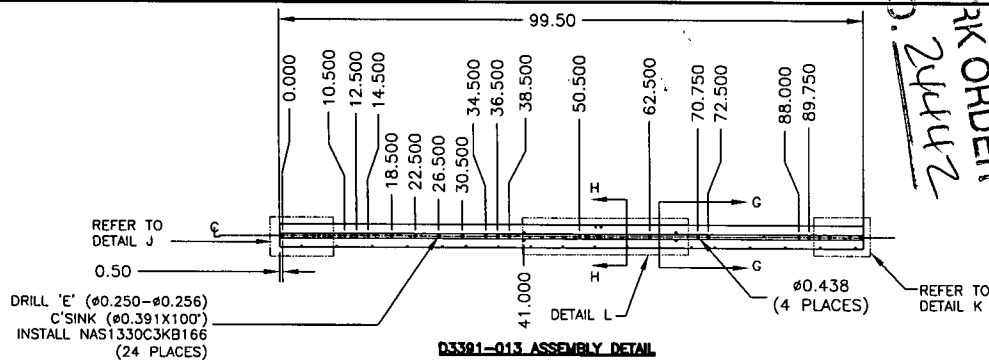
QTY - 011	QTY - 021	PART NUMBER	DESCRIPTION
X		D3391-011	FWD TUBE ASSEMBLY
	X	D3391-021	FWD TUBE ASSEMBLY
1	1	D6013-047	FWD TUBE
1	1	D3401-041	TOW CAP
4	4	AN3C4A	BOLT
4	4	NAS1515H3L	WASHER
4	4	AN960C10L	WASHER
24	14	NAS1330C3KB166	INSERT



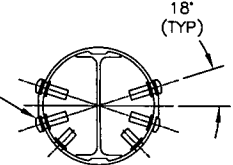
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CHECKED	APPROVED	DRAWING NO. D3391		REV. C SHEET 2 OF 5
DATE 05.09.27		TITLE 412 FLOAT SKIDTUBE		SCALE 1:10

PRELIMINARY ISSUE

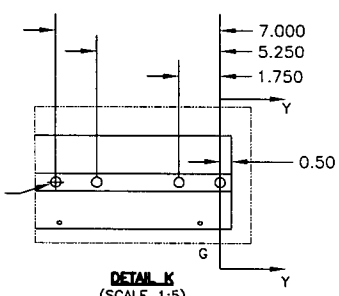
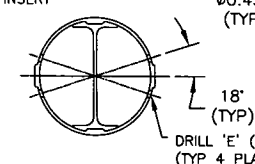
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IT CUT NOTICE  
W/O ORDER  
NO. 24442



DRILL 'O' (#0.332-#0.338)  
INSTALL NAS1329C4KB140 INSERT  
MS27039C4-08 SCREW  
NAS1515H4L WASHER  
AN960C416L WASHER  
(TYP 4 PLACES)



DRILL 'E' (#0.250-#0.256)  
C'SINK (#0.391X100)  
INSTALL NAS1330C3KB116 INSERT  
MS27039C1-09 SCREW  
NAS1515H3L WASHER  
AN960C10L WASHER  
(TYP 4 PLACES)



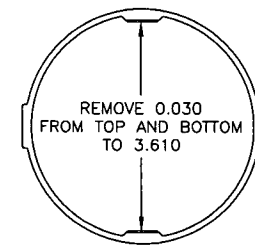
**D3391-013/-023 MID TUBE ASSEMBLY PARTS LIST**

QTY - 013	QTY - 023	PART NUMBER	DESCRIPTION
X	X	D3391-013	MID TUBE ASSEMBLY
		D3391-023	MID TUBE ASSEMBLY
1	1	D2500-1-100	EXTRUSION
1	1	D3389-1	WEB
24	20	NAS1330C3KB116	INSERT
24	10	NAS1330C3KB166	INSERT
4		NAS1329C4KB140	INSERT
4		NAS1515H3L	WASHER
4		AN960C10L	WASHER
4		NAS1515H4L	WASHER
4		AN960C416L	WASHER
4		MS27039C1-09	SCREW
4		MS27039C4-08	SCREW

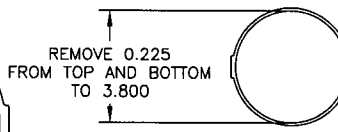
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SECTION M-M  
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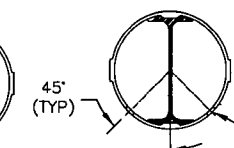
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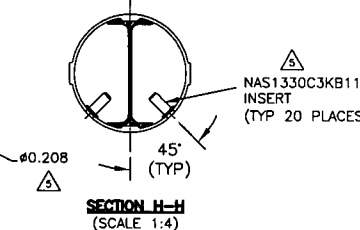
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SECTION Y-Y  
(SCALE 1:4)



SECTION G-G  
(SCALE 1:4)



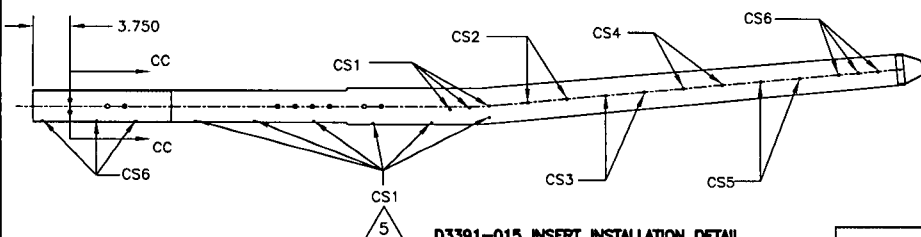
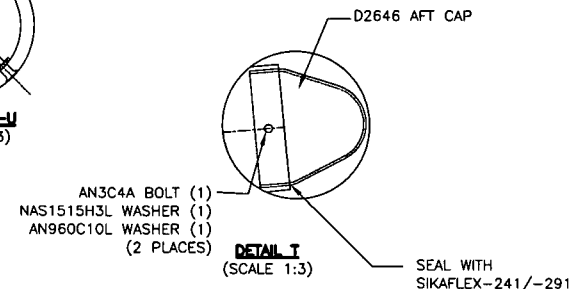
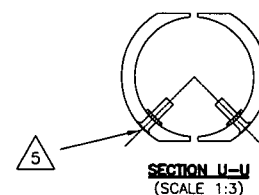
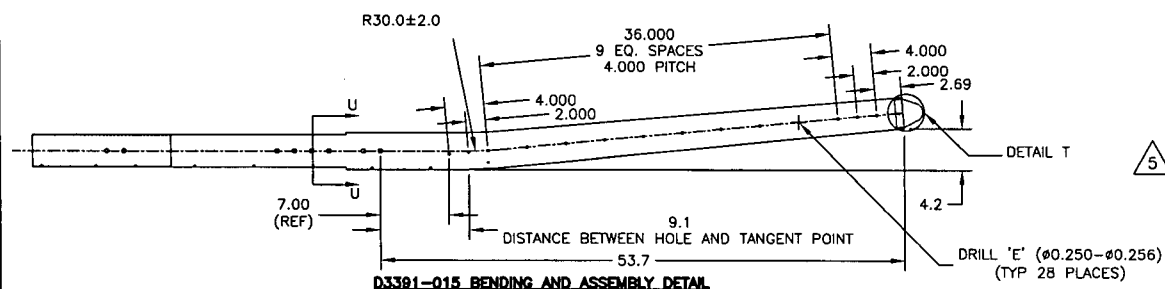
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DATE 05.09.27		TITLE 412 FLOAT SKIDTUBE		SCALE 1:20		

PRELIMINARY ISSUE







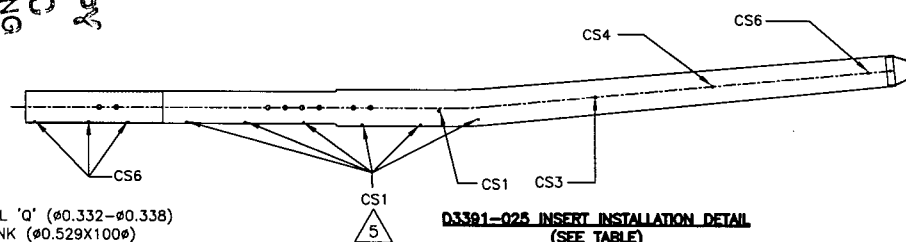
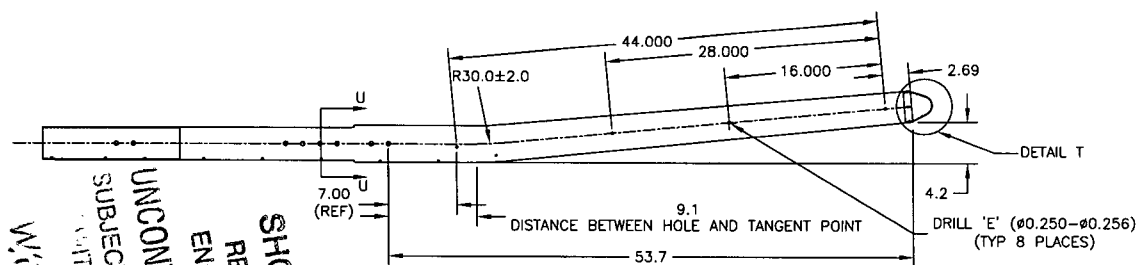
C'SINK AND INSTALL AESS10KBXXX AND/OR  
NAS1330C3KBXXX IN HOLES MARKED CS1-CS6 AS  
FOLLOWS

HOLES MARKED	QTY D3391-015	QTY D3391-025	C'SINK	P/N
CS1	18	14	Ø0.425	AESS10KB366
CS2	4		Ø0.391	AESS10KB366
CS3	4	2	Ø0.391	NAS1330C3KB316
CS4	4	2	Ø0.391	NAS1330C3KB266
CS5	4		Ø0.391	NAS1330C3KB216
CS6	12	8	Ø0.391	NAS1330C3KB166

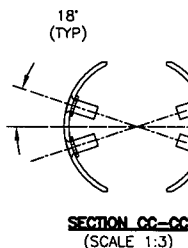
**D3391-015/-025 AFT TUBE ASSEMBLY PARTS LIST**

QTY - 015	QTY - 025	PART NUMBER	DESCRIPTION
X		D3391-015	AFT TUBE ASSEMBLY
	X	D3391-025	AFT TUBE ASSEMBLY
1	1	D6014-090	AFT TUBE
1	1	D2646	AFT CAP
18	14	AESS10KB366	INSERT
4	2	NAS1330C3KB316	INSERT
4	2	NAS1330C3KB266	INSERT
4		NAS1330C3KB216	INSERT
12	8	NAS1330C3KB166	INSERT
4		NAS1330C4KB151	INSERT
2	2	AN3C4A	BOLT
2	2	NAS1515H3L	WASHER
2	2	AN960C10L	WASHER

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DATE 2/14/12



DRILL 'Q' (Ø0.332-Ø0.338)  
C'SINK (Ø0.529X100Ø)  
NAS1330C4KB151 INSERT (1)  
(4 PLACES)



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DESIGN PH	DRAWN BY PH	<b>DART</b> DART AEROSPACE USA, INC. PORT HADLOCK, MA
CHECKED	APPROVED	DRAWING NO. D3391
DATE 05.09.27	TITLE 412 FLOAT SKIDTUBE	REV. C SHEET 5 OF 5 SCALE 1:12

**PRELIMINARY ISSUE**

# Job Costing Report

Dart Aerospace Ltd.  
Hawkesbury

Oct 05, 2005  
10:49 am

Work Order No : 0024442  
Project Name : D3391-023  
Project For : WK543  
Work Order Type : Main  
Main WO Number :  
House Part Number : D3391-023  
Description : Mid Tube Assembly  
Manufactured : No  
Amount Req'd : 0  
Amount Done : 0  
Start Date : 10-05-05  
Est Finish Date : 10-28-05  
Act Finish Date :  
Drawings Req'd : No  
Ok for Approval :  
Approval Rec'd :

Department Code:  
Burden Flags : NNNNNNNN  
WO Status : Open  
Invoice State : Not Invoiced  
Invoice Date :  
Invoice Number :  
Invoice Amount : 0.00  
Order Entry No :  
OE Value : 0.00  
Est Mark Up : 0.000%  
Actual Mark Up : 0.000%  
\$0 Posted to Finished Goods

	Estimated	Actual	Var. %	Posted	To Post
Material Cost	0.00	0.00	0.00	0.00	0.00
Engineering Hours	0.00	0.00	0.00		
Engineering Cost	0.00	0.00	0.00	0.00	0.00
Production Hours	0.00	0.00	0.00		
Production Cost	0.00	0.00	0.00	0.00	0.00
Packaging Hours	0.00	0.00	0.00		
Packaging Cost	0.00	0.00	0.00	0.00	0.00
OverHead Hours	0.00	0.00	0.00		
OverHead Cost	0.00	0.00	0.00	0.00	0.00
CNC Hours	0.00	0.00	0.00		
CNC	0.00	0.00	0.00	0.00	0.00
Misc. Hours	0.00	0.00	0.00		
Misc.	0.00	0.00	0.00	0.00	0.00
Burden	0.00	0.00	0.00		
Total Cost	0.00	0.00	0.00		
Mark up	0.000	0.000			
Selling Cost	0.00	0.00			

	Estimated	Actual
Labour Hrs/Amount Done	0.00	0.00
Profits/(Loss)	0.00	0.00

# Job Costing Report

Dart Aerospace Ltd.  
Hawkesbury

Nov 08, 2005  
12:10 pm

Work Order No : 0024442  
Project Name : D3391-023  
Project For : WK543  
Work Order Type : Main  
Main WO Number :  
House Part Number : D3391-023  
Description : Mid Tube Assembly  
Manufactured : Yes  
Amount Req'd : 2  
Amount Done : 0  
Start Date : 10-05-05  
Est Finish Date : 10-28-05  
Act Finish Date :  
Drawings Req'd : No  
Ok for Approval :  
Approval Rec'd :

Department Code:  
Burden Flags : NNNNNNNN  
WO Status : Open  
Invoice State : Not Invoiced  
Invoice Date :  
Invoice Number :  
Invoice Amount : 0.00  
Order Entry No :  
OE Value : 0.00  
Est Margin : 0.000%  
Actual Margin : 0.000%  
\$0 Posted to Finished Goods

	Estimated	Actual	Var. %	Posted	To Post
Material Cost	0.00	0.00	0.00	0.00	0.00
Engineering Hours	0.00	0.00	0.00		
Engineering Cost	0.00	0.00	0.00	0.00	0.00
Production Hours	0.00	12.75	100.00		
Production Cost	0.00	258.44	100.00	0.00	258.44
Packaging Hours	0.00	0.00	0.00		
Packaging Cost	0.00	0.00	0.00	0.00	0.00
OverHead Hours	0.00	0.00	0.00		
OverHead Cost	0.00	0.00	0.00	0.00	0.00
CNC Hours	0.00	0.00	0.00		
CNC	0.00	0.00	0.00	0.00	0.00
Misc. Hours	0.00	0.00	0.00		
Misc.	0.00	0.00	0.00	0.00	0.00
Burden	0.00	0.00	0.00		
Total Cost	0.00	258.44	100.00		
Margin	0.000	0.000			
Selling Cost	0.00	258.44			

	Estimated	Actual
Labour Hrs/Amount Done	0.00	0.00
Profits/(Loss)	0.00	( -258.44)

MIS 013  
u  
11.13

Date: Monday, 14/11/2005 8:27:22 AM  
 User: Alba Panzuto

## Process Sheet

<b>Customer</b> : CU-DAR001 Dart Helicopters Services	<b>Drawing Name</b> : MID TUBE ASSEMBLY
<b>Job Number</b> : 24442	
<b>Estimate Number</b> : 10469	
<b>P.O. Number</b> :	<b>Part Number</b> : D3391023
<b>This Issue</b> : 14/11/2005 <b>S.O. No.</b> :	<b>Drawing Number</b> : D3391 REV C
<b>Prsht Rev.</b> : NC	<b>Project Number</b> :
<b>First Issue</b> : / / <b>Type</b> : LANDING GEAR	<b>Drawing Revision</b> : C
<b>Previous Run</b> :	<b>Material</b> :
<b>Written By</b> :	<b>Due Date</b> : 20/11/2005 <b>Qty:</b> 2 <b>Um:</b> Each
<b>Checked &amp; Approved By</b> :	
<b>Comment</b> : Est. A 05.10.20 New Issue KJ/EC	

## Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
1.0	D25001100	Skidtube Extrusion
2.0	LANDING GEAR 1	LANDING GEAR RESOURCE 1
<b>Comment:</b> LANDING GEAR RESOURCE 1 1-Cut tube to finish length as per Dwg D3391 2-Identify as D3391-023 3-Drill pilot holes using DT8796 as per Dwg D3391 4-Open float bag holes to Ø0.250" as per Dwg D3391 using DT8796D visual aid Jig 5-C'sink float bag holes as per Dwg D3391 6-Open remaining holes to Ø0.438" as per Dwg D3391 7-Remove indexing ridge on aft end of skidtube as per Dwg D3391 8-Deburr 9-Drill #30 pilot holes using wearplate Jig DT8217Identify Ø0.208" holes with paint marker 10-Open wearplate holes of D3391-023 assembly detail section G-G to Ø0.208" (14 holes) as per Dwg D3391 11-Open wearplate holes of D3391-023 assembly detail section H-H to Ø0.250" and c'sink (20 holes) as per Dwg D3391 12-Deburr and blow out all chips from inside tube		
3.0	QC5	INSPECT WORK TO CURRENT STEP
<b>Comment:</b> INSPECT WORK TO CURRENT STEP		
4.0	HAND FINISHING1	HAND FINISHING RESOURCE #1
<b>Comment:</b> HAND FINISHING RESOURCE #1 Chemical Conversion Coat as per QSI 005 4.1		

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: MID TUBE ASSEMBLY

Job Number: 24442

Part Number: D3391023

Job Number:



Seq. #:	Machine Or Operation:	Description :
---------	-----------------------	---------------

5.0	QC3	INSPECT POWDER COAT/CHEMICAL CONVERSION
-----	-----	---



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

6.0	D33891	Web
-----	--------	-----

7.0	LANDING GEAR 1	LANDING GEAR RESOURCE 1
-----	----------------	-------------------------



Comment: LANDING GEAR RESOURCE 1  
Bond web in place as per Dwg D3391 & QSI 015.  
Adhere for 12 hours)

8.0	NAS1330C3KB116	Insert
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9.0	NAS1330C3KB166	Rivnut
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10.0	LANDING GEAR 1	LANDING GEAR RESOURCE 1
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Comment: LANDING GEAR RESOURCE 1  
Install inserts as per Dwg D3391

11.0	QC5	INSPECT WORK TO CURRENT STEP
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Comment: INSPECT WORK TO CURRENT STEP

12.0	POWDER COATING	POWDER COATING
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Comment: POWDER COATING  
Powder Coat White Gloss (Ref: 4.3.5.1) as per QSI 005 4.3  
Use paint screws to mask inserts.

13.0	QC3	INSPECT POWDER COAT/CHEMICAL CONVERSION
------	-----	---



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

14.0	PACKAGING 1	PACKAGING RESOURCE #1
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Comment: PACKAGING RESOURCE #1  
Identify and Stock  
Location: \_\_\_\_\_

Date: Monday, 14/11/2005 8:27:22 AM  
User: Alba Panzuto

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: MID TUBE ASSEMBLY

Job Number: 24442

Part Number: D3391023

Job Number:



Seq. #:

Machine Or Operation:

Description :

15.0

DC

DOCUMENT CONTROL



Comment: DOCUMENT CONTROL

Inspection Level 21

Job Completion

